REMARKS

Claims 1-33 are pending in the application. The status of the application is as follows:

Claims / Section	35 U.S.C. Sec.	References / Notes
7, 10, 16 and 18	Objection	• Allowable if written in independent form.
1-6, 8, 9, 11-15, 17, 19, 20-25, 32 and 33	§102(e) Anticipation	• Akopian (U.S. Patent No. 6,651,031).
26-31	§103(a) Obviousness	• Akopian (U.S. Patent No. 6,651,031); and • AAPA..

Applicants thank the Examiner for indicating the allowability of claims 7, 10, 16 and 18. Applicants provide the following discussion below for distinguishing the present invention from the art cited against it.

Applicants' use of reference characters below is for illustrative purposes only and is not intended to be limiting in nature unless explicitly indicated.

35 U.S.C. §102(e), CLAIMS 1-6, 8, 9, 11-15, 17, 19, 20-25, 32 AND 33 ANTICIPATION BY AKOPIAN

1. With respect to all independent claims, Akopian fails to teach or suggest the presence of clocks in separate operational units, i.e., both a clock of an inertial measurement unit and a clock of a navigation computer, but rather discusses a dual-clock system in the context of a single operational unit, i.e., a ranging receiver, that includes a good clock and a poor clock.

In the OA on pp. 2-4, the Examiner repeatedly makes reference to an inertial measurement unit according to Akopian. However, Applicants have not

located a single reference to an inertial measurement unit in the Akopian reference or even the terms "inertia" or "inertial". Rather, Akopian discusses the presence of multiple clocks (good clock, poor clock) in the context of a ranging receiver, such as those used on a global positioning system (GPS).

According to Akopian, at 4/40-48:

> The invention provides a clock model for use for example by a ranging receiver in which (as a power-savings strategy) two clocks are used, a more precise, more power-consuming clock, and a less precise, less power-consuming clock, and the ranging receiver switches from one clock to the other between navigation solutions so that the variation of the local oscillator frequency of each clock must be taken into account in the navigation solutions. The invention includes a generalization to an arbitrary number of clocks.

Akopian further states, at 7/60-8/2:

> Now, according to the invention, the navigation solution uses a two-clock model, in which the receiver switches alternately from a good (i.e. precise but power-consuming) clock to a poor (i.e. less precise but less power-consuming) clock. The model assumes that during a first period with duration Δt_1, the good clock provides time measurements used in the navigation solution, and during the next period with duration Δt_2, the poor clock gives the time measurements.

While Akopian does indicate that the two-clock system can be used in any application requiring a time estimate, it does not teach or suggest a system in which each of the two clocks are associated with two separate operational components, and particularly fails to disclose two separate operational components in which one is an inertial measurement unit. In order to anticipate, a reference must teach each and every element of the claim. Since Akopian fails

to teach or suggest an internal measurement unit having a clock and a navigation computer having a clock, it does not anticipate the independent claims of the present application.

2. With respect to all independent claims, Akopian fails to teach or suggest the control of only one operational unit by a clock of that operational unit in one state, and control of multiple operational units by the clock of a single operational unit in another state, but rather discusses a dual-clock system in the context of a single operational unit.

The Examiner states, on p. 2 of the OA, that Akopian discloses a navigation computer having a clock, and a clock controller, wherein the clock controller enables only the navigation computer to be clocked by the clock of the navigation controller at times, and wherein the clock controller enables both the navigation computer and the inertial measurement unit to be clocked by [the] clock of the navigation computer at other times. The Examiner cites to Figure 3 and columns 2 and 12 as providing this teaching.

The Applicants respectfully disagree with this characterization of the teaching of Akopian. Nowhere does Akopian discuss the control of only a navigational system by a clock in one state, and the control of both the navigational system and an inertial measurement unit by that same clock in a different state. In fact, Akopian never teaches or suggests any clock controlling two separate and distinct units at all, let alone teaching a distinction between states where the clock controls one and two units respectively.

As noted above, Akopian discloses a single unit controlled by two clocks (a poor clock that saves power, and a good clock that consumes more power) (2/5-9 and 7/61-64). Only one of these clocks is operated at any given time, according to some predetermined cycle. 7/65 - 8/2. In Figure 3, the two clocks are shown having an identical output and both controlling the same unit. The same is true for Figure 4.

Since the focus of Akopian is to deal with the switching between a good quality but power hungry clock and a poor quality but power conservative clock controlling a single operational unit, Akopian fails to teach or suggest the state switching between controlling one and two operational units by a common clock.

3. With respect to independent claim 20, Akopian fails to teach or suggest the presence of a navigation computer, an inertial measurement unit, and a GPS receiver, let alone three separate conditions under which a common clock signal is applied to various combinations of these components depending on the condition.

For reasons discussed above, Akopian fails to teach or suggest the presence of an inertial measurement unit and fails to make a distinction between a GPS received and a navigation computer, particularly with respect to the supplying of a clock signal to these entities individually or distinctly, as required by claim 20.

The Examiner cites very broadly to the columns and figures of Akopian making it difficult to understand how the elements of the claims are being read on by the elements of Akopian. In the event that this rejection is maintained in

the next Office Action, the Examiner is respectfully requested to provide specific and narrow column/line number cites and to identify specifically how the elements of the navigation computer, the inertial measurement unit, and the GPS receiver are disclosed as distinct elements in Akopian.

Nor would it be obvious to apply the solution proposed by Akopian to a system where the two clocks are associated with separate operational components because, for reasons explained in more detail below, Akopian fails to provide a teaching as to how the clocking of two operational components can be achieved by a single clock of one of the components where each of the components comprises its own clock, as required by the independent claims. Akopian's teaching focuses on the switching between two clocks that are controlling a single operational unit and focuses on the power-savings advantages of using each clock separately from the other (4/40-45).

For these reasons, the Applicants assert that the independent claims contain elements not taught or suggested by Akopian and therefore are not anticipated by this reference. The Applicants respectfully request that the Examiner withdraw the §102 rejection from the present application.

35 U.S.C. §103(a), CLAIMS 26-31 OBVIOUSNESS OVER AKOPIAN IN VIEW OF AAPA

4. Applicants rely on the above arguments with respect to the independent claims, from which claims 26-31 depend, and assert that the addition of AAPA does not provide disclosure of the elements of the independent claims alone or in combination.

In the OA, on pp. 4-5, the Examiner stated:

> Akopian does not particularly disclose the time alignment of inertial data and the tracking of loop commands. However, as described in the background of the invention, Applicant recognized that the prior art discloses adjusting time alignment of inertial data from the inertial measurement unit, GPS data from the GPS receiver, and tracking loop commands provided by the navigation computer. Thus, it would have been obvious to one skilled in the art at the time of the invention to be motivated to modify the system of Akopian by incorporating the time alignment and tracking loop commands of the known art because such modification would provide a more precise clock control.

Applicants do not disagree with the Examiner that the Background of the Invention section identifies a need for a precise adjustment of the time alignment of data between the units. However, the AAPA distinguishes the present inventive solution identified in the independent claims from the systems that are known. It is not known from the AAPA to provide two separate operational units that each have their own clock, wherein in a first state the clock of one operational unit controls only that operational unit, and in a second state the clock of one operational unit clocks more than one operational unit.

The Examiner cites AAPA as teaching elements of the dependent claims—these assertions are not addressed on the merits here, but rather the Applicants rely on the arguments above and state that the combination of reference cited by the Examiner fail to teach the elements of the independent claims.

For these reasons, the Applicants assert that the claim language clearly distinguishes over the prior art, and respectfully request that the Examiner withdraw the §103(a) rejection from the present application.

CONCLUSION

Inasmuch as each of the objections have been overcome by the amendments, and all of the Examiner's suggestions and requirements have been satisfied, it is respectfully requested that the present application be reconsidered, the rejections be withdrawn and that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

Mark Bergner (Reg. No. 45,877)
Mark Bergner
SCHIFF HARDIN LLP
for

Honeywell International, Inc.
101 Columbia Road
P.O. Box 2245
Morristown, New Jersey 07962-2245
Customer No. 000128

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Mark Bergner